

REMARKS/ARGUMENTS

No claims have been added, canceled, or amended.

35 U.S.C. § 102(e) Rejections

Examiner rejected claims 7-14 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,697,641 (hereinafter "Shapira"). The Applicant respectfully disagrees and submits the following arguments in support of their position.

As understood by the Applicant, Shapira is directed to a two-antenna transceiver that can change the polarization of the transmitted signal in response to the polarization of the received signal. See Col. 2 Lines 35-43, and Fig. 9. Thus, Shapira is concerned with polarization matching in a Code Division Multiple Access (CDMA) system.

In contrast, claim 7 requires "a diversity agent, to selectively develop and apply a set of complex weight values to each of a plurality of signals, each corresponding to a sub-carrier of a multi-carrier communication channel, to introduce spatial diversity between such sub-carriers." (underline for emphasis) The system required by claim 7 is an Orthogonal Frequency Division Multiplexing (OFDM) – type system having a "multi-carrier communication channel" using a plurality of orthogonal tones (carriers) to redundantly transmit information to a user.

Claim 7 further requires that this OFDM-type sub-carrier system be improved by modifying each of the sub-carriers to introduce spatial diversity between the sub-carriers. Shapira does not teach or suggest a multi-carrier

channel that could be improved in this manner. More importantly, Shapira does not teach or suggest modifying sub-carriers of a channel in a manner that ensures path independence for each of the sub-carriers.

Therefore, claim 7 is allowable over Shapira. Furthermore, dependent claims 8-14 that depend of allowable claim 7 adding further limitations are thus also allowable.

35 U.S.C. § 103(a) Rejections

Examiner rejected claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,652,764 (hereinafter "Kanzaki") in view of U.S. Patent 6,697,641 (hereinafter "Shapira"). The Applicant respectfully disagrees and submits the following arguments in support of their position.

As understood by the Applicant, Kanzaki is concerned with receiving a diversity transmission at a user station in a CDMA system. The transmitting base station having two antennas is described as having two orthogonal code generators to create the two CDMA spread spectrum signals being transmitted for the antennas. See, e.g., Fig 1. The system described in Kanzaki does not teach a multi-carrier communications channel, or weighing various carrier signals in a multi-carrier communications channel.

As further understood by the Applicant, Shapira is directed to a two-antenna transceiver that can change the polarization of the transmitted signal in response to the polarization of the received signal. See Col. 2 Lines 35-43, and Fig. 9. Thus, Shapira is concerned with polarization matching in a Code Division Multiple Access (CDMA) system.

In contrast, claim 1 requires “generating a plurality of sub-carriers to redundantly transmit the information to a user over a multi-carrier wireless communication channel, wherein each of the sub-carriers is modified by a set of complex weights to ensure that each of the sub-carriers of the wireless communication channel propagates along a different physical path to the receiver.” (underline for emphasis) The system required by claim 1 is an Orthogonal Frequency Division Multiplexing (OFDM) – type system having a “multi-carrier wireless communication channel” using a plurality of orthogonal tones (carriers) to redundantly transmit information to a user.

Claim 1 further requires that this OFDM-type sub-carrier system be improved by modifying “each of the sub-carriers ... by a set of complex weights to ensure that each of the sub-carriers of the wireless communication channel propagates along a different physical path to the receiver.” Neither Kanzaki nor Shapira teaches or suggests a multi-carrier channel that could be improved in this manner. More importantly, neither Kanzaki nor Shapira teaches or suggests modifying sub-carriers of an OFDM-type channel in a manner that ensures path independence for each of the sub-carriers.

Therefore, claim 1 is allowable over Kanzaki in view of Shapira. Furthermore, dependent claims 2-6 that depend on allowable claim 1 adding further limitations are thus also allowable.

CONCLUSION

Applicant respectfully submits the present application is in condition for allowance. If the Examiner believes a telephone conference would expedite or assist in the allowance of the present application, the Examiner is invited to call Adam Furst at (408) 947-8200.

Authorization is hereby given to charge our Deposit Account No. 02-2666 for any charges that may be due.

Respectfully submitted,

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